

operator's manual

NCR

160

*bookkeeping
machine*



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foreword

Your NCR Class 160 is the product of years of research, engineering and manufacturing experience in building the finest in record keeping equipment. Like all NCR products it is designed to give you better records in less time and at lower cost. Your Class 160 has NCR's exclusive "Live" Keyboard, which—in combination with other automatic features—

makes it the world's simplest and easiest bookkeeping machine to operate.

This manual does not give complete details on all the features and functions of the machine. It is intended only as a guide to use of the machine after it has been installed by an NCR representative. Keep this manual handy for reference.

general explanation

All NCR Class 160 machines are basically the same in overall size and appearance. There are, however, numerous models, differing in capacity, number of totals, carriage widths, and other standard and special features.

Your machine may not have all of the features explained in the following pages and possibly might have some special features which are not covered here. **If you have a question or problem, and cannot find the answer in this book, be sure to check the model and serial number on the back of your machine before calling the local NCR representative for information.** These numbers will enable him to assist you.

To find the model and serial number of your machine, move the carriage to the left as far as possible. On the back, near the right side, you will find the plate showing the serial number and the complete model number. Jot these numbers down in the space provided below, so you will always have them available for quick reference.

serial no. _____

model no. _____



operating the machine

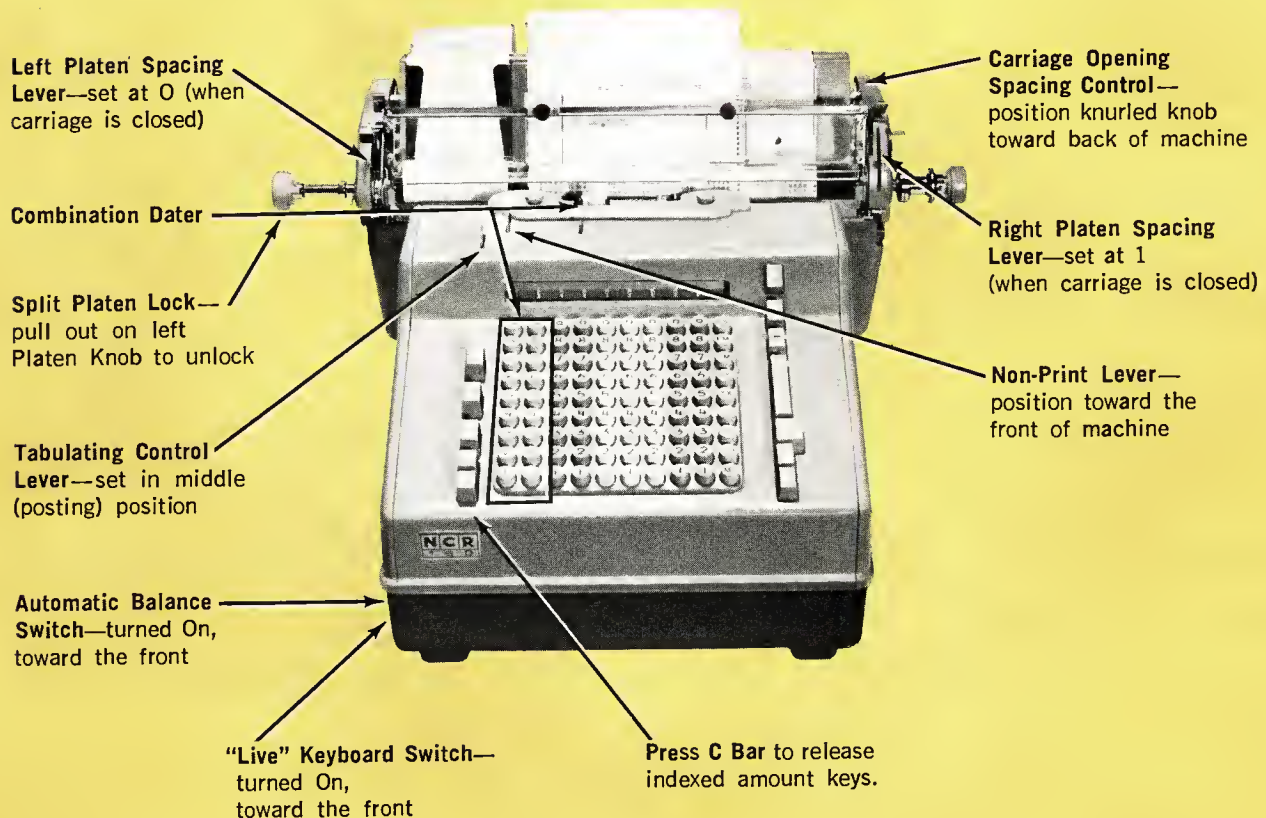
The NCR Class 160 is very simple and easy to use. You can learn to operate it in a few minutes, even without prior training, and can become fast and proficient within a few days.

Once the machine has been set-up for a specific application, no changes need be made in the posi-

tions of any of the levers, switches or other control mechanisms except when you want to change from posting to listing work. There is, of course, always a chance that one or more of these controls may have been moved accidentally, so it is always advisable to check them before you start a job.

position of controls for posting

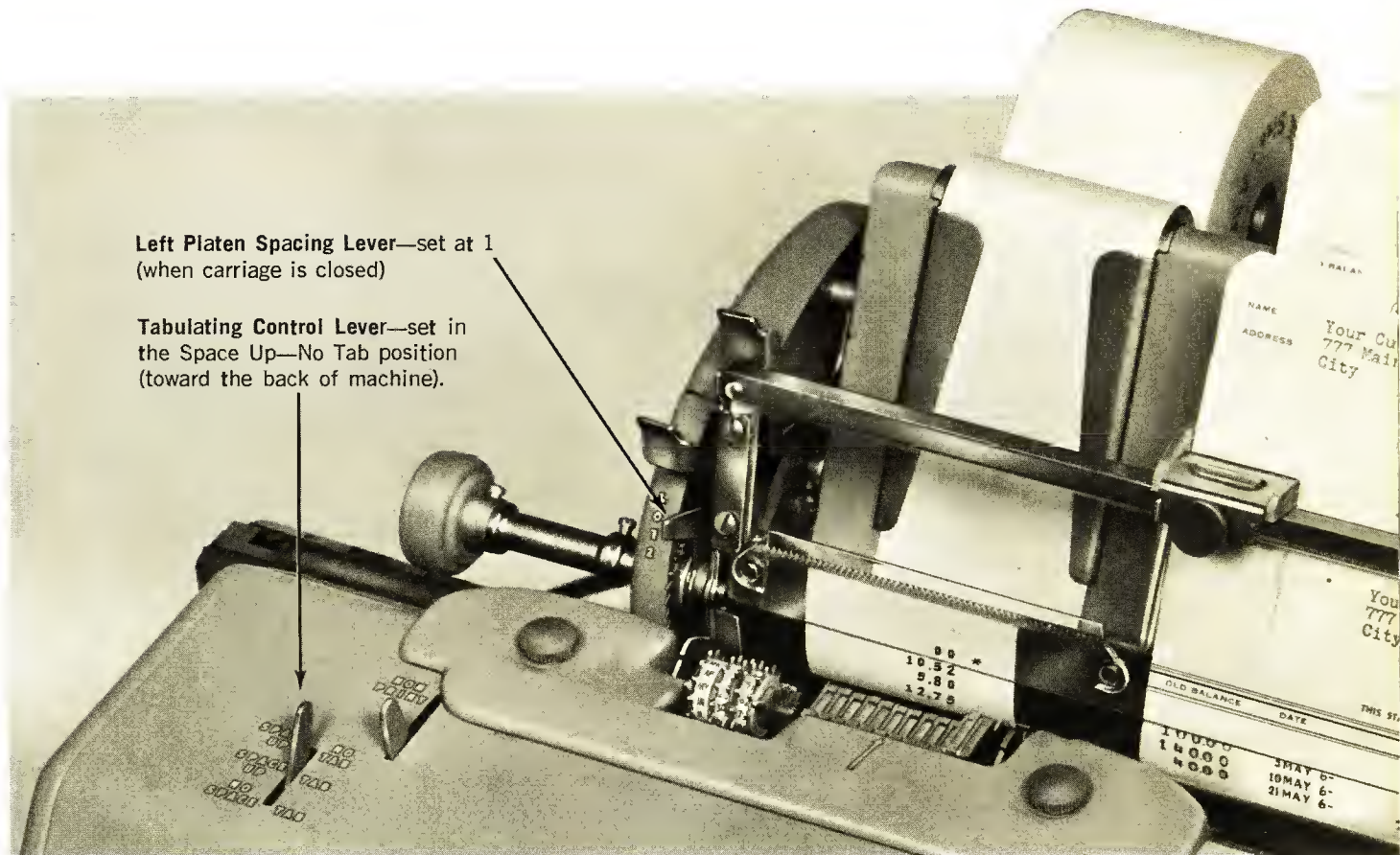
For most applications, the controls should be set as shown below. Any variations in these settings will be explained at the time the machine is installed.



position of controls for listing

In most cases, before you start to post the accounts, you must add-list the items to be posted. This total is saved for a comparison with the "Proof Total" that is accumulated during the posting, and printed on the journal at the end of the run. To add-list the

amounts on the machine, or do any other listing, simply move the carriage to the right as far as possible so the adding machine tape is in front of the printing sectors, and change two controls to the positions shown below.



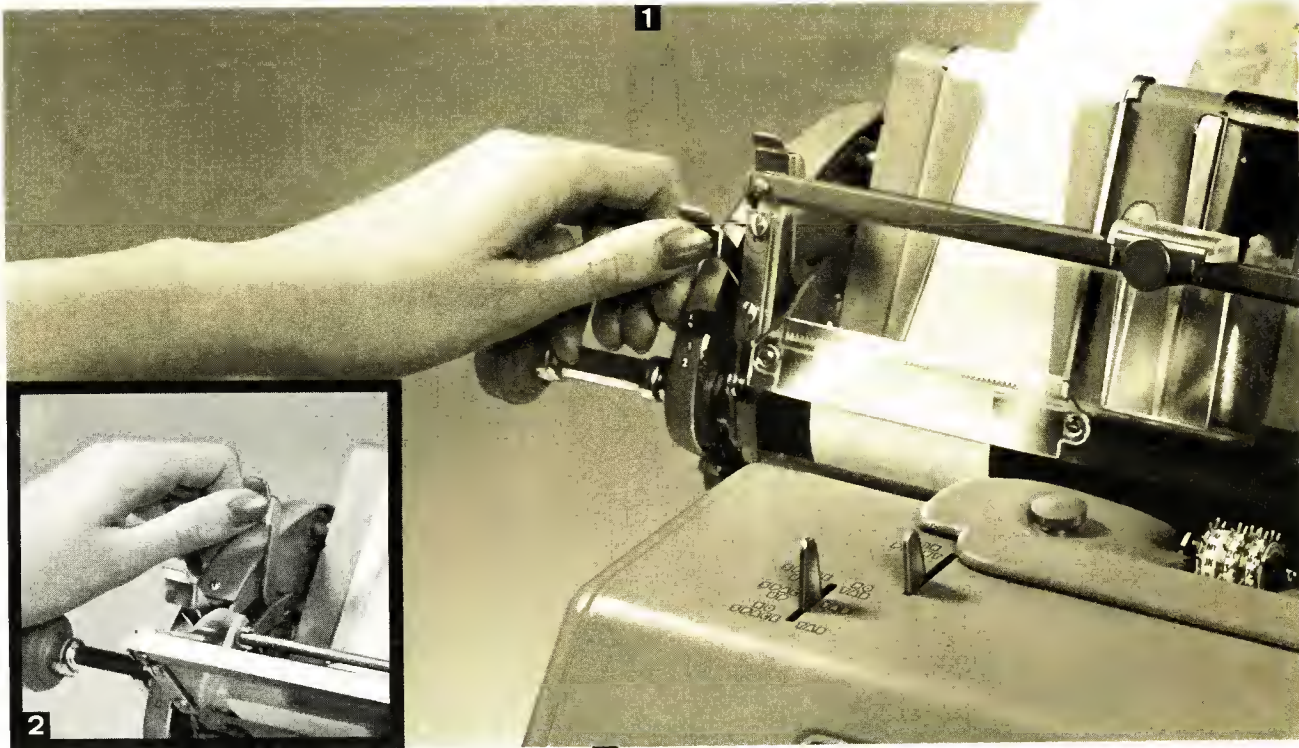
If a journal is in the machine, the Right Platen Spacing Lever should be set at 0 so the journal will not space up while listing.

The Large Answer Dials also permit you to use the machine for adding-subtracting without printing the items. To do this, position the carriage as shown above, set both Platen Spacing Levers at 0 and the Non-Print Lever at non-print.



inserting the journal

After you have set the controls for posting as shown on page 2 the next step is to put the journal in the machine. This form goes into the machine the same way you put a sheet of paper in a typewriter, that is, around the platen from the back, as follows:



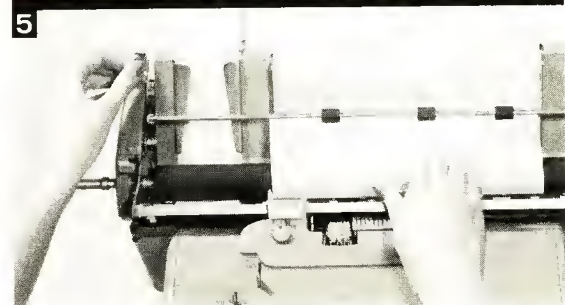
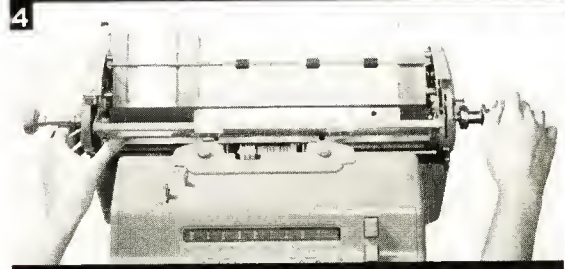
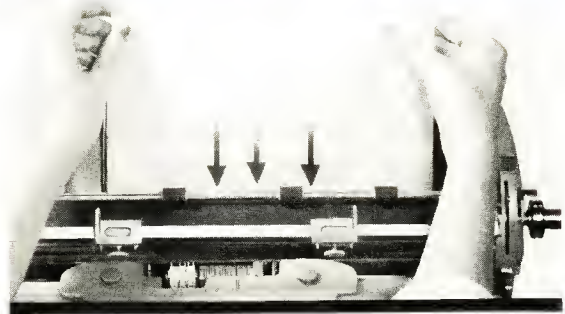
1 Open the carriage by pressing the Carriage Release Lever toward the back of the machine.

2 Raise the Paper Bail by pressing the Journal Release Lever toward the back of the machine until it catches.

3 Select a journal sheet (with fly-sheet on the front), turn it over and insert it in back of the platen—top first—between the journal guides on the back table and behind the raised Paper Bail.

4 Turn the Platen Knob to roll the journal and fly-sheet around the platen. As the journal comes through, press back on the top of the metal strip in front of the platen, just below the plastic front panel.

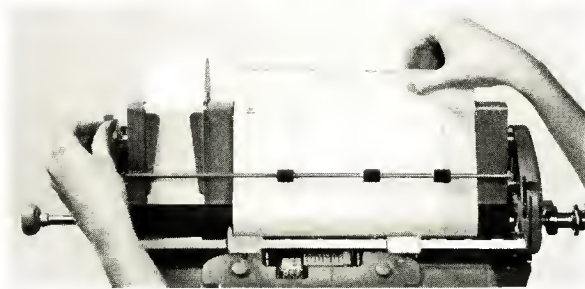
5 Guide the top of the sheets under the Paper Bail as they feed through.



6 Pull the Journal Release Lever forward to lower the Paper Bail. As the bail contacts the paper, pull the sheets taut around the platen.



If you insert the journal firmly and straight at the start, it will seldom need to be realigned. However, if it comes through crooked, you can straighten it without removing it from the machine. The easiest way to do this is to turn the journal through until the top and bottom are about even. Then, push the Journal Release Lever to the back as far as it will go. (This raises the bail and releases the tension on the form.) Align the top and bottom edges of the form, hold them even and pull taut against the platen as you lower the bail. Then, turn the form back to the first printing line.



clearing the totals

The machine must be clear when you start any job. It is also essential to have printed proof on the completed journal or listing tape that the machine was clear at the start. To clear the machine on the journal, before you start to post the accounts, clear the totals as follows:

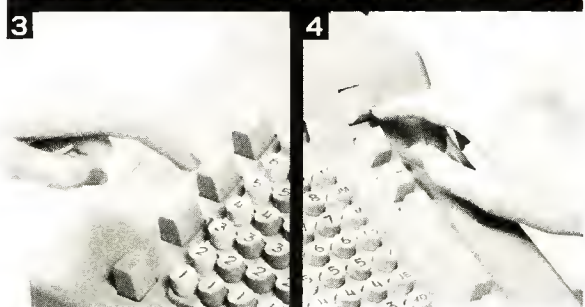
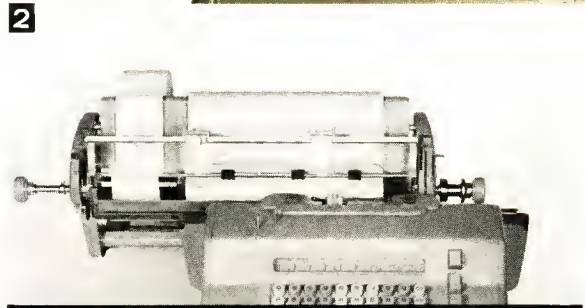
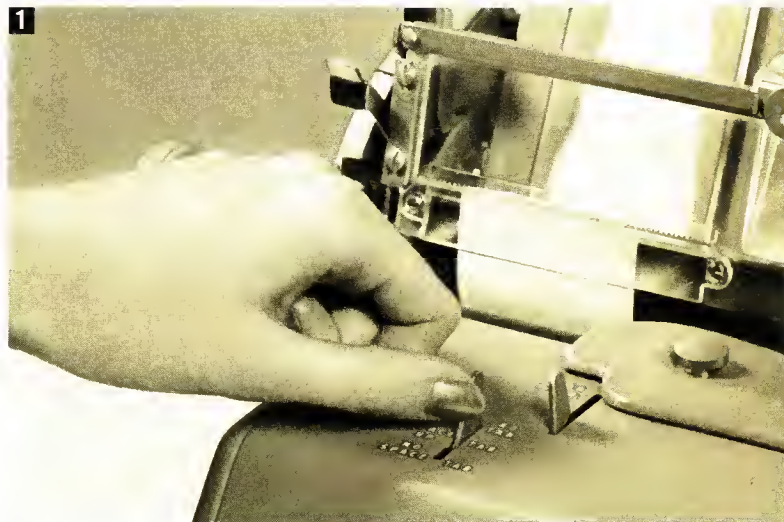
- 1 Move the Tabulating Control Lever to No Tab position.
- 2 Close the carriage and move it manually to the last column on the right hand side of the journal.
- 3 Press the B Total Bar (B*). It will stay down. Next, depress the Total Bar (*) to clear the B Total.
- 4 Press the Total Bar (*) again to clear the A Total.

Return the Tabulating Control Lever to Tab position. If the carriage does not return, depress the motor bar and it will do so.

Now you have printed .00*B and .00* (or the amounts that were left in the totals followed by *B and *). These symbols indicate that the machine is clear.

To clear the machine on the tape before listing, close the carriage, move it to the tape position and follow steps 1 and 4 only.

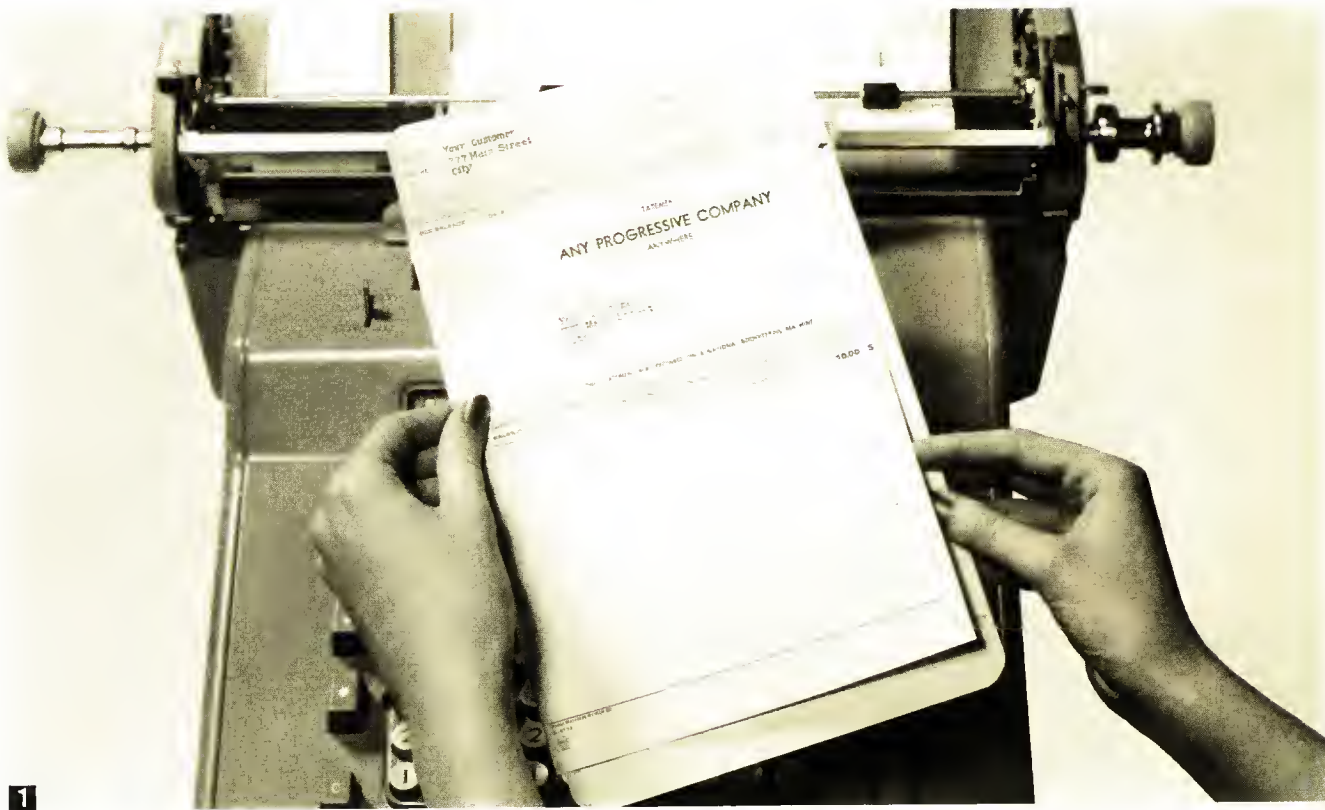
caution: Clear the B Total at the beginning and end of each posting run only. When you use the machine for listing between postings to individual accounts, clear the A total only on the listing tape. Do not clear B.



how to put the statement and ledger card in the machine

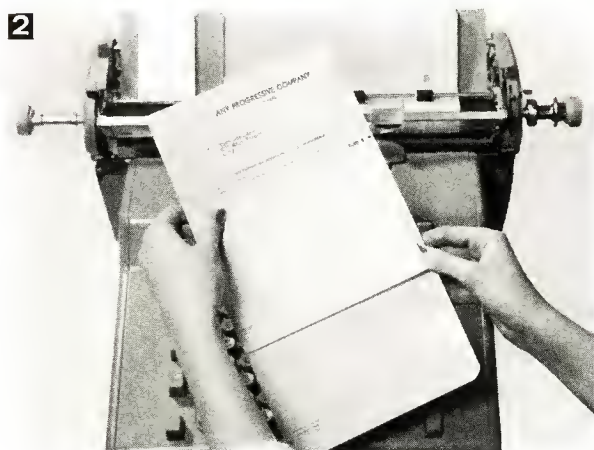
The statement and ledger card go into the front of the carriage together; the statement in front of the ledger, and both in front of the journal. Thus, the machine prints on the statement and copies thru to the ledger and journal.

Notice that the statement is slightly narrower than the ledger card. When you put them in the machine, the left edges should be flush. The extra space in the right hand column on the ledger card is for the S, * or < to print directly on the card as a guide for aligning the forms for the next entry.



Before you insert the statement and ledger in the machine, align them as follows:

- 1** Place the statement in front of the ledger card with the left edges flush.
- 2** Move the statement up or down until the last balance (or forwarded balance) is on the same line as the last balance on the ledger card.



Hold the two forms firmly in this position and insert them in the front of the carriage as follows:

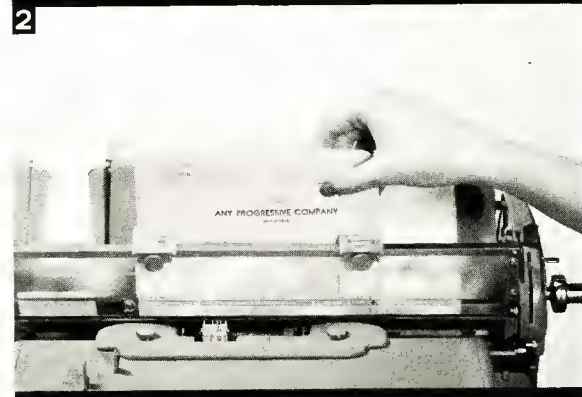
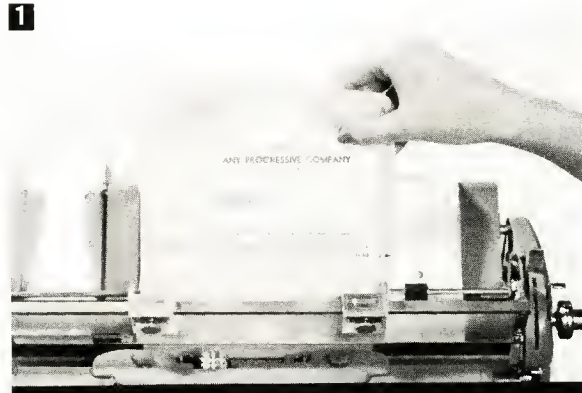
1 Grip them near the top with the thumb(s) and forefinger(s)—upright and facing you—and place them bottom first behind the plastic panel. Keep the left edges flush against the left guide.

When the bottom of both forms has passed under the platen, close the carriage half way, until it catches in intermediate position.

2 Grip both forms so as not to disturb the alignment and move them up or down until the last balance is between the black and red guide lines on the plastic panel.

(NOTE: The two guide lines show the position of the previous posting, not the line on which printing will occur. If your **first pick-up is on the right** and on the same line as the last balance, position the last balance on the statement just below the bottom or red line.)

3 Release the forms and close the carriage with a quick positive motion. **Do not hold the forms when you close the carriage;** they must be left free to move down into printing position.



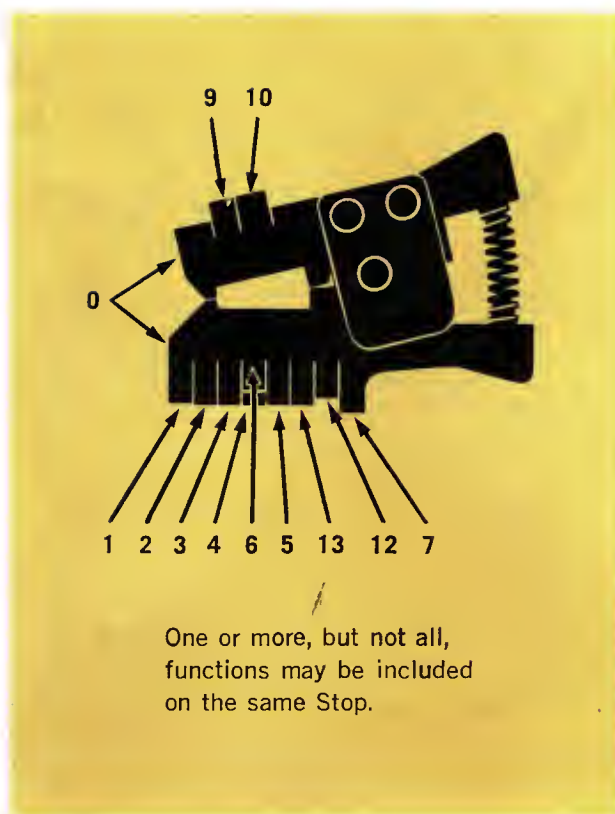
With a little practice, you will be able to insert the forms, position them and close the carriage very quickly in one continuous motion.

As you close the carriage, the platen moves down pulling the forms into printing position. Printing occurs just above the top of the printing type sectors.

After you have made a few postings, you will be able to tell at a glance with the carriage closed if you have the forms positioned correctly. If necessary, you can reposition the forms while the carriage is closed, simply by pulling forward on the Front Form Release Lever (upper lever on right). This releases the tension, so forms in front can be moved up or down without moving the journal.



how the machine functions



As explained on page 12, the position of the Tabulating Control Lever determines whether the carriage will tabulate to the next Stop after each machine operation, or remain stationary on a Stop for listing.

Besides stopping the carriage and releasing the machine so that it will operate, Stops also perform numerous other functions as follows:

STOP NO. FUNCTION

- 0 Normal Operation ("Live" Keyboard adds in both totals and Control Bars perform their normal function)
- 1 Prevents printing of sign bar symbol in balance column (use of #1 is desirable when there is space limitation on forms).
- 2 Date
- 3 Non Select A Total
- 4 Non-Print
- 5 Subtract
- 6 Non-Print Cents
- 7 Halt carriage return initiated by ← Bar
- 9 Automatic Balance A Total
- 10 Automatic Sub-Balance A Total
- 12 Start carriage return on forward tabulation and halt Carriage travel on return.
- 13 Non-Select B Total
- BPL* By-Pass Left Margin (Halts carriage return initiated by #12 and MR Stops. Does not stop forward tabulation or return initiated by ← Bar Stamped ML-12.)
- ML* Left Margin (Halts carriage return whether initiated by Stop or ← Bar.)
- MR* Right Margin (#9 Stop and #12 Stop joined by studs.)
- OR* Open Carriage on Return (Does not halt carriage travel in either direction.)
- OT* Open Carriage on Tabulation (Does not halt carriage travel in either direction.)
- S* Skip Attachment (May be ordered on a numbered Stop.)
- SR* Skip Release (Disengages skip function initiated by Skip Bar and stops forward tabulation on next stop.)
- 13TR* Transfer Switch Selection (On wired machines only.) Does not halt carriage travel in either direction. Changes function of preceding Stop.

*Not illustrated

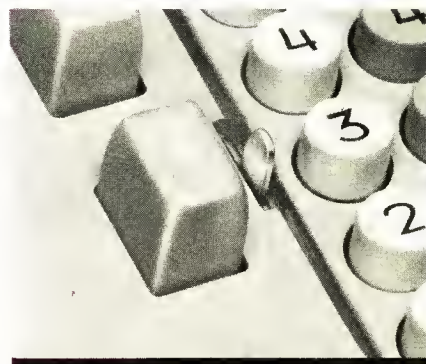
keyboard

All Class 160 machines have NCR's exclusive "Live" Keyboard. Every key is motorized and will operate the machine the same as the Motor Bar. For amounts that require depression of more than one key, such as \$5.55, you lightly depress the required keys to intermediate or "stay down" position; then, fully depress the last key to operate the machine and record the entire amount. The amount will either add, subtract, or non-add in either or both totals as called for by the Stop on which the carriage is positioned. The date will automatically print and the carriage will tabulate to the next column.



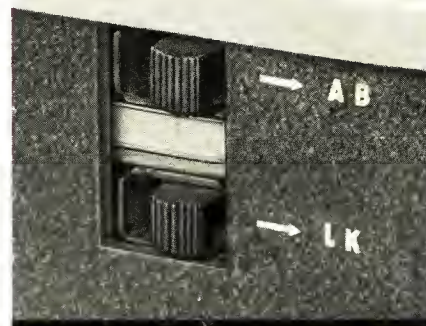
adjustable *"Live" touch control*

The amount of pressure required to operate the "Live" keys is adjustable to suit each operator's preference. Key tension is controlled by the small lever next to the 3rd and 4th keys in the extreme left row. When this lever is toward the front of the machine, touch is heaviest; toward the back, touch is lightest. (Heavy touch is recommended for new operators, to prevent operating the machine unintentionally before all the keys for an amount have been set on the keyboard.)



"Live" Keyboard switch

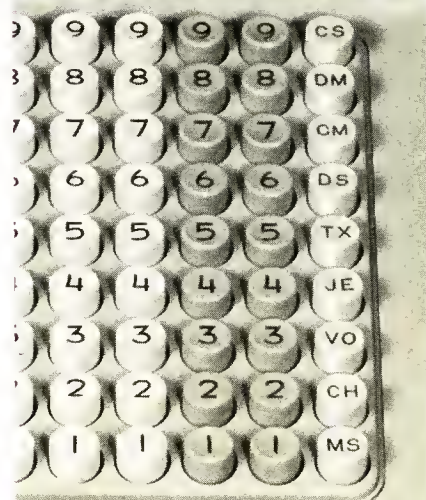
The "Live" feature of the keys may be turned off, if desired, by the small electrical switch — marked →LK — on the left side of the base of the machine. When the switch is Off — to the back — the keys are "dead" and the machine will operate only by use of one of the motor bars.



descriptive keys

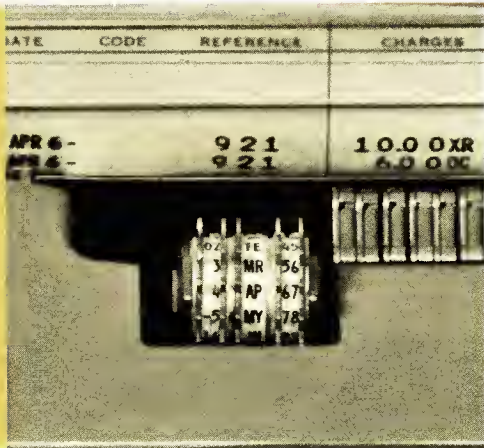
Some machines have one or more rows of keys to describe certain entries. These keys, orange with green letters, are standard in row 1 on some models. Unless otherwise ordered, they are "Live," the same as amount keys. Standard symbols are:

CS—Cash	DS—Discount	VO—Voucher
DM—Debit Memo	TX—Tax	CH—Charge
CM—Credit Memo	JE—Journal Entry	MS—Miscellaneous



date printing

Your machine may have either a Combination Wheel and Keyboard Dater or a Keyboard Dater. The date that is set on the dater will print automatically whenever the machine is operated when the carriage is positioned on a date stop. Each style dater is explained below.



combination dater (wheel and keyboard)

Machines equipped with a Combination Dater provide much flexibility. The Wheel Dater automatically prints day, month and year, or may be used in combination with the two left Keyboard rows to print day of the month. If desired, these two rows may be used to print department numbers or transaction codes. In other words, the Combination Dater offers four choices of printing:

15 APR 6- , 6- APR 15 ,

15 APR 6- 9 , 6-APR15

To reset the date, the wheels can be turned in either direction. To repeat date, indexed on Keyboard, depress Date Repeat (DR) Bar and Keys will stay down. This saves resetting the date, code, etc., after each machine operation. When the Date Repeat Bar is up, the date Keys restore after each operation.



keyboard dater (month, day, year)

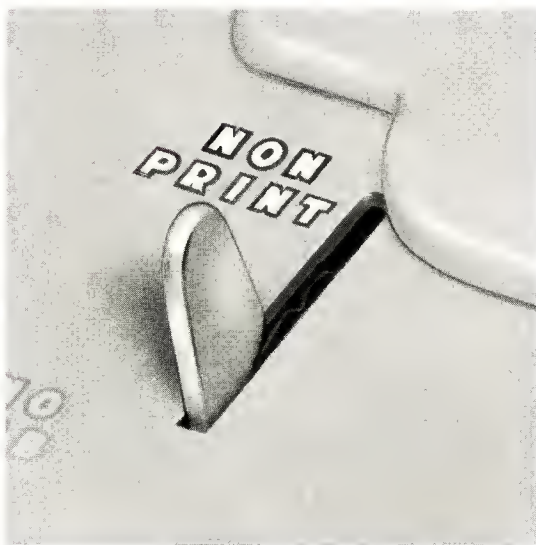
On machines with Keyboard Dater, date printing is controlled by date keys on the left side of the keyboard. Entire date may be repeated when Date Repeat (DR) Bar is depressed.



date and normal lever

The Date & Normal Lever on the top of the case in front of the ribbon cover—marked N-D—controls the function of the date keys on the Keyboard. In the N (normal) position, the date keys function the same as amount keys; in D (date) position, the dater functions as explained previously.

to print the date, this lever must be in the "D" position



non-print lever

must be toward the front of the machine, or the machine will not print

When this lever is in Non-Print position the machine will not print on any operation (except wheel dater) so you can use the machine without listing tape or clear totals without printing on forms.

tabulating control lever



Your machine can be used for listing as well as posting. The position of the Tabulating Control Lever determines whether the carriage will tabulate after each operation or remain stationary. The middle and front positions of this lever are for posting. The back position is for listing, and printing or clearing the B Total.

totals

On machines with Automatic Balance, the A Total prints and clears automatically when posting. The automatic balance can be turned off, if desired, by the small electrical switch—marked →AB on the left side of the base of the machine. (See ill., page 9.) When the switch is to the back, the automatic balance is Off.

To manually print the A total and clear the machine you simply press the * Bar. The carriage must be closed and positioned in a debit (charge) or balance column or one that does not preclude addition in the total being cleared.

To print and clear the B Total, on two-total models, you first depress the B* Bar and then press the * Bar.

Machines with Compound Memory, also have a C* Bar just below the B* Bar. If your machine has this feature, you first depress the B* Bar, then press the * Bar to print and clear accumulated Debits. Then, you depress the C* Bar and the * Bar to print and clear accumulated Credits.



subtotals

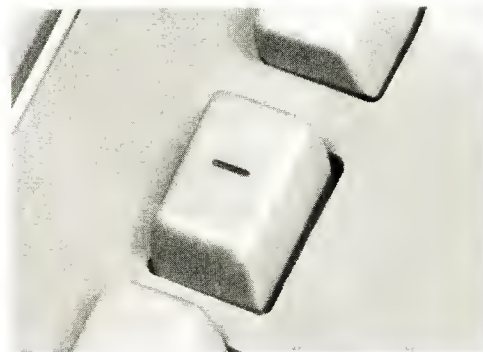
To print the A Total without clearing it from the machine, press the S Bar. As with totals, the carriage must be closed and positioned in a debit (charge) or balance column or one that does not preclude addition and printing.

To subtotal the B Total on two-total models, first depress the B* Bar, then the S Bar.



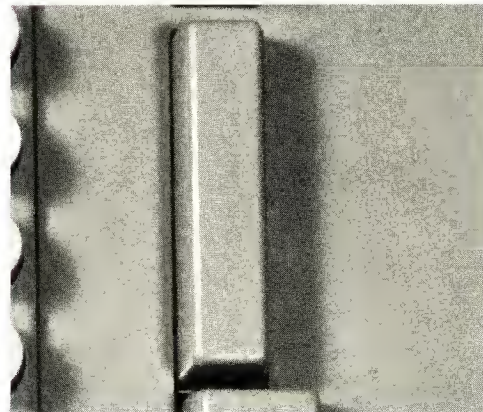
subtraction

The Red – Bar subtracts the amount set up on the keyboard in one or both totals when the carriage is positioned on a Stop that does not preclude addition in the total(s). Since the “Live” Keyboard normally adds instantly when the amount keys are fully depressed, to subtract you must depress the keys only to the first position, then press the – Bar.



plus bar

There are times when you will want to operate the machine without using the “Live” Keyboard, such as when you have set up an amount and removed your hand from position over the keyboard because of an interruption. If so, you can operate the machine by pressing the Plus Bar instead of one of the keys.



skip motor bar

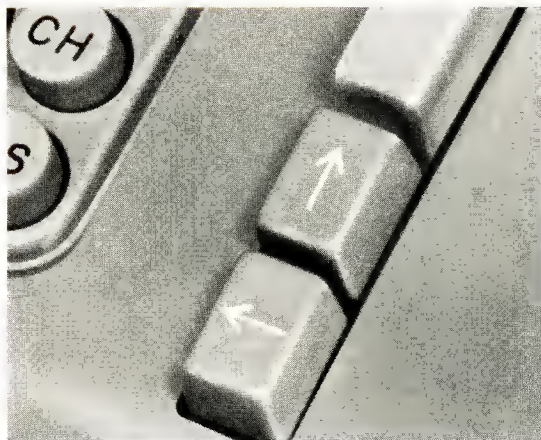
The SKIP Motor Bar operates the machine and causes the carriage to skip one or more columns depending on the way the machine is programmed. The column in which the carriage will stop following use of the SKIP Bar is determined by a special Stop.



to post more than one item to an account

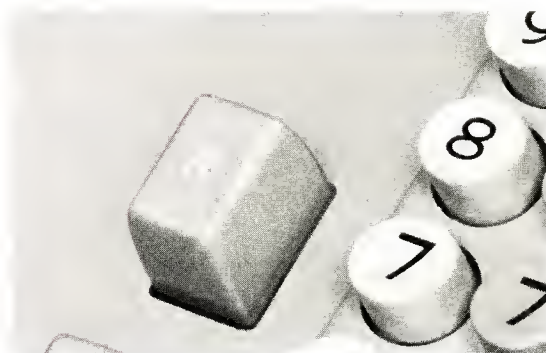
The two bars marked with arrows (↑ and ←) are used to enter amounts when you have more than one item to post to the same account. The ↑ Bar operates the machine and spaces the forms to the next posting line so you can enter the next item in the same column. The ← Bar operates the machine, spaces forms to the next posting line and returns the carriage to a previous column. The column to which the carriage will return is determined by a Stop, usually in a Reference column so you can enter a number to identify the next item.

With some posting plans you can also mechanically return the carriage to the tape listing position by pressing the ← Bar.



reverse bar

There are times when you will want to add amounts in columns where the machine is programmed to subtract, and other times when you will want to subtract in columns where the machine is programmed to add. In such cases, depress the R (Reverse) Bar before entering the amount. With the R Bar down, the subtract function is reversed causing the machine to add, and the add function may be reversed causing the machine to subtract. (Machines manufactured prior to serial number 802723 reversed only the subtract function.)



how to handle a credit balance

When posting to an account that has a credit balance, it is necessary to subtract the 1st old balance pick-up where the machine is programmed to add, and add the 2nd old balance pick-up which is normally a subtract column. To do this, simply depress the R Bar before entering the amount. With the R Bar down, the add stop function is reversed causing the machine to subtract the 1st old balance pick-up. By depressing the R Bar and entering amount in the 2nd old balance column the credit stop function is reversed. Thus, the 1st pick-up subtracts, the 2nd pick-up adds.

JOURNAL

OLD BALANCE	DATE	POLIO	DEBITS	CREDITS	BALANCE	PROOF PICK UP	PROOF
25.00	12 MAY 6-	1.234	35.00		10.00	25.00	00

NAME: Donald A. Jones
ADDRESS: 2257 East Main Street
Anytown, U.S.A.
SHEET NO: 1
RATING: A
CREDIT LIMIT: 100

OLD BALANCE	DATE	POLIO	DEBITS	CREDITS	BALANCE
25.00	12 MAY 6-	1.234	35.00		25.00
					10.00

Use R Bar to subtract

Use R Bar to add

to print reference numbers when listing and in other columns than "reference" column

The # Bar operates the machine and prints the amount set up on the keyboard without affecting the accumulated total. This Bar is seldom used when posting, since reference numbers (in the Reference column) are automatically non-added by the "Live" Keyboard or Motor Bar.

However, when listing, the carriage is on an add Stop, so if you want to print a reference number to identify amounts listed, you use the # Bar.

to release depressed keys

Any amount key or date key that has been depressed by mistake releases automatically when another key in the same row is pressed. If several keys have been depressed in error, the entire keyboard can be cleared by pressing the C Bar. The C Bar also releases the R Bar and the B* Bar, but it does not release DR Bar or Date Keys when the DR Bar is down.



correcting errors

The principles for correcting errors in machine bookkeeping are the same as in hand methods. The correction should be made in a way that will leave no doubt about what was done. In some cases, accountants require that the amounts entered in error

be immediately reversed; however, the easiest, simplest way which is acceptable in most cases, is to draw a single line through the incorrect entry and correct the accumulated total at the end of the run. Here's how you do it:

to correct an error, follow these simple steps:

- Always complete the posting. (This clears the A Total and Dials.)
- Line out the entire entry on the statement and ledger.
- Space the journal up an extra space.
- Re-post the item correctly, lay the forms aside instead of putting them back in the ledger tray, and continue with the rest of the work.
- When you have finished posting all accounts, subtract the B Total.
- Correct the B Total by adding or subtracting the amount of each error. If the error is a black figure, subtract it from the B Total. If the error is a red figure add it to the B Total.
- When all corrections have been made, clear the B Total.
- Remove the journal and line out the entire entry in which the error occurred.

care of machine

Your NCR Bookkeeping Machine is as nearly perfect as precision engineering and manufacturing can make it. With reasonable care, it will give you many years of uninterrupted service. To assure this, remember to:

- Guard against misuse of the machine.
- Keep the machine covered when not in use.
- Have the machine cleaned and lubricated at least twice a year.



maintenance

You'll find worth-while advantages in placing your machine under NCR's Maintenance Agreement at the end of the one-year guarantee period. This plan provides the most economical and efficient method of making sure that your machine will be properly serviced.

Under this plan, NCR agrees to inspect the machine at regular intervals, make any necessary adjustments, lubricate as required, and furnish necessary repair parts—in short, to handle the entire question of service for a fixed annual charge without any further thought on your part.

Ask your NCR representative about this plan, or call the nearest NCR Branch Office or Dealer for more information.



The NCR trademark is your assurance of a quality product!

NCR has been a producer of quality business machines since 1884.

Only NCR manufactures this complete line of equipment in its
Adding Machine Division:

- Full keyboard adding machines

- Ten-key adding machines

- Bookkeeping machines

Adding machines and bookkeeping machines
... to create input media for electronic data
processing systems.

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